

College of Education Bachelor of Science in Education, emphasis in Earth Science Education  
The Bachelor of Science (BS Ed) in Earth Science Education leads to a Missouri Teaching Certificate (9th-12th)

<b>Basic Requirements (24-33hrs)</b> Includes MU General Educ. and CoED Degree Requirements				<b>Professional Education (43hrs)</b> 2.000 GPA required in each course 3.000 Overall GPA required in Professional Education				<b>Single Subject Earth Science Content Area (54hrs)</b> 3.000 Overall GPA required in content courses (^)			
<i>See notes on back for more details.</i>											
Sem. Hrs.	Semester	Grade		Sem. Hrs.	Semester	Grade		Sem. Hrs.	Semester	Grade	
ENGLSH 1000*(C range grade)	3			<b>Phase I (9hrs)*</b>			<b>Earth Science (41hrs)</b>				
MATH 1100*(C range grade) or equivalent	0-3			LTC 1155 Orientation	1			GEOL 1200 Environmental Geology^	4		
WI (C range grade) _____	0-3			ESC_PS 2010 Inq Into Learning 1	3			GEOL 1250 The World's Oceans^ (SP)	3		
<b>Biological &amp; Physical Sciences</b> (fulfilled in content area)				ESC_PS 2014 IL I Field	1			GEOL 2150 The Age of the Dinosaurs^ (SP)	3		
<b>Math Reasoning Prof. (3hrs)</b> (C range grade)				LTC 2040 Inq, Schls, Comm, & Soc 1	3			GEOL 2350 Historical Geology^ (SP) &	3		
MATH 1400 Calculus for Soc & Nat Sci	3			LTC 2044 ISCS I Field	1			GEOL 2360 Historical Geology Lab^ (SP)	1		
<b>Social and Behavioral Science (9hrs)</b>				<b>Phase II (20 hrs)** Fall Start Only</b>				GEOL 2400 Surficial Earth Processes (FS)	4		
POL_SC 1100	3			<b>Semester 1</b>				GEOL 2500 Regional Geol Field Trip^ (SP)	3		
HIST 1100, 1200 or 2210	3			LTC 4560 Teaching Reading in Cont Area	2			GEOL 3250 Mineralogy (FS)	5		
PSYCH 1000	3			LTC 4631 Teach Science in Sec Schools I (WI)	3			GEOL 3800 Sedimentology with Lab (SP)	4		
<b>Humanities and/or Fine Arts (9hrs)</b>				LTC 4634 Teach Science in Sec Schools I Fld	1			GEOL 4150 Structural Geology (SP)	4		
COMMUN 1200* or equiv	3			<b>Semester 2</b>				ATM_SC 1050 Meteorology^	3		
	3			SPC_ED 4020 Inquiry into Learning II	3			ASTRON 1010 Intro to Astronomy^	4		
	3			LTC 4641 Teach Sci in Sec Schls: Phil, Hist...^	3			<b>Biology (5hrs)</b>			
<b>Intermediate Level (0-3hrs)</b> (fulfilled in content)				LTC 4644 Teach Sci in Sec Schls: Phil, Hist Fld	1			BIO_SC 1500^ Intro to Bio Systems w/Lab	5		
<b>World International (0-3hrs)</b>				<b>Semester 3</b>				<b>Chemistry (4hrs)</b>			
	0-3			ED_LPA 4060 ISCS II	3			CHEM 1320 College Chemistry I^	4		
				LTC 4651 Teach Science in Sec Schools III	3			<b>Physics (4hrs)</b>			
				LTC 4654 Teach Science in Sec Schools III Fld	1			PHYSCS 1210 College Physics I^	4		
				<b>Phase III (14hrs)</b>				<i>See back for details regarding dual degree requirements</i>			
				LTC 4971 Teaching Internship & Capstone	14						
<p>*Must be completed before Phase II **Application and admission to Phase II required ^Denotes course for content GPA A minimum of 120 credit hours is required for an MU degree 2.750 Overall &amp; UM GPA req. for Graduation</p>				<b>Unified Science-Earth Science Endorsement (23-25hrs) GPA of 3.000 required in content</b> <b>Complete all coursework required for Single Subject PLUS:</b>							
				<b>Biology (15-17hrs)</b>				<b>Chemistry (3hrs)</b>			
				BIO_SC 2200 Genetics	4			CHEM 1330 College Chemistry II	4		
				BIO_SC 3650 Ecology	5			<b>Physics (4hrs)</b>			
				BIO_SC 4600 Evolution	3			PHYSCS 1220 College Physics II	4		
				Botany (BIO_SC 1200, 3210, 4400, 4320, 4660, or PLNT_S 4500)	3-5			<i>*Completion of unified science requirements strongly recommended</i>			

College of Education Bachelor of Science in Education, emphasis in Earth Science Education  
The Bachelor of Science (BS Ed) in Earth Science Education leads to a Missouri Teaching Certificate (9th-12th)

Phase II Checklist	If you would like to add Middle School Certification (grades 5-9), the following courses are highly recommended:	Notes																								
<p><input type="checkbox"/> Demonstration of competence of Phase I learning markers as demonstrated by satisfactory completion of Phase I courses</p> <p><input type="checkbox"/> Satisfactory completion of oral communication proficiency</p> <p><input type="checkbox"/> Satisfactory completion of English 1000 Exposition and Argumentation with a C-range grade or higher (or equivalent)</p> <p><input type="checkbox"/> Satisfactory completion of Math 1100 College Algebra with a C-range grade or higher (or equivalent)</p> <p><input type="checkbox"/> Overall GPA of 2.750 or higher</p> <p><input type="checkbox"/> UM GPA of Record of 2.750 or higher</p> <p><input type="checkbox"/> Satisfactory completion of appropriate Missouri Educator Gateway Assessment(s)</p> <p><input type="checkbox"/> Currently enrolled in the College of Education</p> <p><input type="checkbox"/> Completion of application for Progression into Phase II</p> <p><input type="checkbox"/> Possession of characteristics associated with effective performance in a professional role at level and major selected</p> <p>Decisions regarding Phase II admission are made by faculty. Meeting minimum requirements for admission to Phase II does not guarantee admission to Phase II.</p> <p><b>Faculty Coordinator</b> Dr. Lloyd Barrow 303 Townsend Hall 573-882-7457 barrowl@missouri.edu</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;"></th> <th style="width: 10%; text-align: center;">Sem. Hrs.</th> <th style="width: 10%; text-align: center;">Semester</th> <th style="width: 10%; text-align: center;">Grade</th> </tr> </thead> <tbody> <tr> <td>LTC 4354 Middle School Science Field (SP)</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> <tr> <td>LTC 4420 Adolescent Literacy (replacing LTC 4560) (SP)</td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td>LTC 4424 Adolescent Literacy Fld (SP)</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> <tr> <td>LTC 4410 Teach, Engag, &amp; Assess Mid-Level Students (FS)</td> <td style="text-align: center;">3</td> <td></td> <td></td> </tr> <tr> <td>LTC 4414 Teach, Engag, &amp; Assess Mid-Level Students Fld (FS)</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: center;"><b>Missouri Department of Elementary and Secondary Education Highly Qualified Teacher</b></p> <p style="text-align: center;">The Department of Elementary and Secondary Education requires that individuals seeking certification to teach subjects in addition to their initial area of certification pass the Content Area Exam in those subjects in order to be considered a Highly Qualified Teacher.</p> <p style="text-align: center;"><b>Dual Degree-Bachelor of Science in Geological Sciences through the College of Arts and Science</b></p> <p>_____ Review <a href="http://www.t2d2.missouri.edu">www.t2d2.missouri.edu</a> website for opportunities for dual degree students</p> <p>_____ Meet with Dr. Miriam Barquero-Moline, 209 Geological Sciences, <a href="mailto:barqueromolinam@missouri.edu">barqueromolinam@missouri.edu</a></p> <p>_____ Declare dual degree by completing Transfer of Division Application</p> <p>_____ Notify your College of Education Advisor that you will be pursuing a dual degree in Arts &amp; Science</p> <p>Verify additional general education requirements for Arts &amp; Science degree with an Arts &amp; Science advisor. *A minimum of 132 credit hours is required for earning a dual degree</p>		Sem. Hrs.	Semester	Grade	LTC 4354 Middle School Science Field (SP)	1			LTC 4420 Adolescent Literacy (replacing LTC 4560) (SP)	3			LTC 4424 Adolescent Literacy Fld (SP)	1			LTC 4410 Teach, Engag, & Assess Mid-Level Students (FS)	3			LTC 4414 Teach, Engag, & Assess Mid-Level Students Fld (FS)	1			<p><input type="checkbox"/> <b>College Algebra</b> Math 1100, 1160 or equivalent (C-range grade or higher) Please see <a href="http://www.mathplacement.missouri.edu">www.mathplacement.missouri.edu</a> for complete details regarding College Algebra exemption and earning College Algebra credit by proctored ALEKS exam.</p> <p><input type="checkbox"/> <b>Writing Intensive (WI)</b> Two courses: 3 cr. hr. writing intensive designated coursework from university curriculum (course may be used to fulfill a general education or CoED requirement); 3 cr. hr. professional education course, C-range grade or higher. Please see <a href="http://www.cwp.missouri.edu">www.cwp.missouri.edu</a> for writing intensive course options approved by semester. ENGLSH 1000 is a pre-requisite.</p> <p><input type="checkbox"/> <b>General Education Distribution</b> For a complete list of courses used to fulfill general education distribution areas (i.e. Biological, Physical, Mathematical Sciences; Behavioral and Social Sciences; and Humanities and Fine Arts), please go to <a href="http://www.generaleducation.missouri.edu">www.generaleducation.missouri.edu</a></p> <p><input type="checkbox"/> <b>Math Reasoning Proficiency (MRP)</b> Must require college algebra as a pre-requisite (C-range grade or higher)</p> <p><input type="checkbox"/> <b>Intermediate Level</b> A Humanities and Fine Arts, Mathematics, Biological or Physical Science course numbered 2000 or higher. (Course may be used to fulfill a general education or CoED requirement)</p> <p><input type="checkbox"/> <b>Oral Communication Proficiency</b> COMMUN 1200 or equivalent (C-range grade or higher); or passing score on the Principles of Public Speaking DSST exam. COMMUN 1200 may be used to fulfill 3 cr. hrs. of Humanities and Fine Arts</p> <p><input type="checkbox"/> <b>World International</b> List of approved courses available in Advising and Certification Services Office and Orientation Handbook. Course may be used to fulfill a general education or CoED requirement.</p> <p style="text-align: center;"><b>Missouri Educator Gateway Assessments (MEGA)</b></p> <ul style="list-style-type: none"> <li>· Missouri Educator Profile</li> <li>· General Education Assessment</li> <li>· Standards-Based Performance Assessment</li> <li>· Content Area Assessments</li> </ul>
	Sem. Hrs.	Semester	Grade																							
LTC 4354 Middle School Science Field (SP)	1																									
LTC 4420 Adolescent Literacy (replacing LTC 4560) (SP)	3																									
LTC 4424 Adolescent Literacy Fld (SP)	1																									
LTC 4410 Teach, Engag, & Assess Mid-Level Students (FS)	3																									
LTC 4414 Teach, Engag, & Assess Mid-Level Students Fld (FS)	1																									